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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,357	02/20/2004	Sangkeun Rhee	H0004301 (4760)	7709

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Richard S. Roberts  
Roberts & Roberts, L.L.P.  
Attorneys at Law  
P.O. Box 484  
Princeton, NJ 08542-0484

EXAMINER

DOONER, CHARLES

ART UNIT PAPER NUMBER

1772

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/783,357	<b>Applicant(s)</b> RHEE ET AL.	
	<b>Examiner</b> Charles Dooner	<b>Art Unit</b> 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 40-49 is/are pending in the application.
- 4a) Of the above claim(s) 44-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 40-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Claims 44-49 in the reply filed on January 6, 2006 is acknowledged. The traversal is on the ground(s) that Groups I and II are not independent and/or distinct groups on the grounds that both product and method claims contain all the same limitations. This is not found persuasive because the method claims have limitations to the method of productions whereas the product claims contain no such limitations. For example, the article product could be made by additional processes not listed such as coextrusion injection molding or by a lamination method.

The requirement is still deemed proper and is therefore made FINAL.

### ***Withdrawn Rejections***

2. Applicant's arguments, see Page 9, Para. 1, filed January 6, 2006, with respect to Drawings has been fully considered and is persuasive. The objection of drawings has been withdrawn.

3. Applicant's arguments, see Page 9, Para. 2, filed January 6, 2006, with respect to abstract have been fully considered and are persuasive. The objection of abstract has been withdrawn.

4. The objection to the incorporation by reference of US Patents 4,510,301 and 4,544,721 of record in the action mailed December 21, 2005, Page 3, have been withdrawn do to the Applicant's amendment in paper filed January 6, 2006.

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The Applicant submitted both references in proper IDS forms, thus complying with examiners request.

5. The 35 U.S.C.103 rejections of Claims 1-28 and 40-42 over Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) of record in the office Action mailed December 21, 2005, Pages 5-6, have been withdrawn due to Applicant's Arguments in Paper filed January 6, 2006. However the same art has been applied in a different rejection below.

6. The 35 U.S.C.103 rejections of Claims 29 and 43 over Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) and Jing et al. (6,849,314) of record in the office Action mailed December 21, 2005, Pages 7, have been withdrawn due to Applicant's Arguments in Paper filed January 6, 2006. However the same art has been applied in a different rejection below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-28 and 40-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) evidenced by Urawa et al (4751270).

With regards to claims 1 and 13-14, and 16-21, Tsai et al. (2003/0008152) discloses an multilayer film comprising a fluoropolymer layer and a thermoplastic layer attached by an adhesive tie layer (Pg. 1, Para. 13, Lines 1-5) which is made of an ethylene/alpha olefin copolymer evidenced by Urawa et al (4751270) (Col. 1, Lines 52-55) found in Tsai et al. (2003/0008152) (Pg. 2, Para. 15, Lines 11-14). Tsai et al. (2003/0008152) fails to teach the adhesive tie layer comprising at least one tackifier as in Claim 1. Tsai et al. (2003/0008152) further fails to teach the specific composition of said adhesive tie layer, such as the choice of tackifier from claims 13 and 14, , and the weight percents of the tackifier in the adhesive tie layer from claims 16 to 21.

However, Kawachi et al. (6,656,601) discloses an adhesive composition of 50-99% by weight of ethylene/ $\alpha$ -olefin copolymer (Col. 3, Lines 4-5) containing a tackifier in amounts of 1% by weight to 50% by weight (Col. 3, Line 18), where said tackifier is selected from petroleum based (Col. 19, Line 1), terpene based (Col. 19, Lines 12-14), as well as other known tackifiers (Col. 2, Lines 57-67 and

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Col. 3, Lines 1-23) for the purpose of obtaining an adhesive composition has high adhesive force between polymers (Col. 2, Lines 55-57).

It would have been obvious to one of ordinary skill at the time the invention was made to use the adhesive composition comprising a combination of at least one tackifier and an ethylene/alpha olefin copolymer of Kawachi et al. (6,656,601) as an adhesive tie layer in the multilayer film of Tsai et al. (2003/0008152) in order to obtain a film with increased adhesive strength between the fluoropolymer layer and the thermoplastic layer.

In regards to Claims 2-7, and 23, Tsai et al. (2003/0008152) discloses a multilayer film disclosed having a number of additional layers of other polymers on either or both sides of the multilayer film, the additional polymer layers joined with or without adhesive layers between the additional polymer layers (Page 2, Para. 18, Lines 18-23). These additional layers may comprise of thermoplastics such as polyolefins, polyvinyl chloride, polyvinylidene chloride, or other such polymers (Page 2, Para. 18, Lines 16-22).

In regards to Claims 8-10, Tsai et al. (2003/0008152) also discloses a number of fluoropolymers that can be used in the film, such as chlorotrifluoroethylene homopolymers and copolymers (Pg. 1, Para. 14, Lines 5-11) and poly(chlorotrifluoroethylene) homopolymers and copolymers (Pg. 1, Para. 11, Lines 3-4).

In regards to Claims 11-12, Tsai et al. (2003/0008152) discloses that the thermoplastic layer in the multilayer film is a cyclic (cyclo) olefin homopolymer or copolymer (Pg. 1, Para. 13, Lines 3-4).

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In regards to Claim 22 and 24, Tsai et al. (2003/0008152) discloses the multilayer film being coextruded together using cast or blown film techniques (Page 2, Para. 21, Lines 1-18).

In regards to Claims 25-26, the films in Tsai et al. (2003/0008152) are oriented (stretched) uniaxially or biaxially from at least 1.5 to 10 times in the longitudinal (machine) and/or transverse directions (Pg. 3, Para. 23, Lines 19-23).

In regards to Claims 27-28 and 41-42, Tsai et al. (2003/0008152) discloses that the films can be formed or thermoformed (Page 5, Para. 40, Lines 6-8) into an article suitable for packaging moisture sensitive products due to the fluoropolymer containing films improved water vapor barrier capability (Page 5, Para. 40, Lines 2-4).

8. Claims 29 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) as applied to claim 1 above, and further in view of Jing et al. (6,849,314). Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) teaches a multilayer film with layers of fluoropolymers, adhesive tie layers and thermoplastics with all the limitations as taught above. Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) fails to teach the multilayer film being formed into a tube.

However, Jing et al. (6,849,314) discloses that films containing fluoropolymer layers are well known in the art to be formed into tubes (Col. 1,

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Lines 9-10) for the purpose of producing tubes with chemical resistance and low fuel permeation (Col. 1, Lines 21-22)

It would have been obvious to one of ordinary skill at the time the invention was made to form the multilayer article of Tsai et al. (2003/0008152) in view of Kawachi et al. (6,656,601) into a tube as in Jing et al. (6,849,314) since it is well known in the art that this produces a tube with chemical resistance and low fuel permeation.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-29 and 40-43 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsai et al. (US 20040197567 A1, US 20030008152 A1, US 20010008694 A1, US 6465103 B2, US 6238607 B1, US 5945221 A, US 5874035 A, US 5460760 A), Tsai (US 6555190 B1, US 6432542 B1, US 6306503 B1), Wong et al. (US 4612155), Dubois et al. (US 6319979), Parikh et al. (US 6344515) are cited to show the current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Dooner whose telephone number is (571) 272-1646. The examiner can normally be reached on Monday-Friday from 9:00 to 5:30.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Charles Dooner  
Patent Examiner  
Art Unit 1772

4/3/06